

Abstract of the Disclosure

The present invention relates to employing OFDM modulation in combination with spatial diversity and space-time block coding to provide high data rates and exceptional interference immunity. For transmission, quadrature modulated data is encoded in space and time to create individual series of encoded symbols. Each of these series of encoded symbols is subjected to a type of inverse Fourier Transform in corresponding transmission paths. In each transmission path, cyclic extensions may be appended to the resultant symbols, which are subsequently converted to an analog format, modulated, amplified, and transmitted from one of multiple antennas. Preferably, such communications are implemented from base stations to mobile terminals in an environment where the frequency reuse factor is approximately one and the base stations are synchronized to a common clock signal.